FEB 1 0 2004 200

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Anguera Pros et al.

Application No.: 10/632,604

Art Unit: Not Yet Assigned

Filed: August 1, 2003

Examiner: Not Yet Assigned

For: MINIATURE BROADBAND RING-LIKE

Attorney Docket No.: 153454600010

MICROSTRIP PATCH ANTENNA

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

This Statement is submitted in compliance with 37 C.F.R. § 1.56.

A list of patent(s) and/or publication(s) is set forth on the attached Form PTO-1449. A copy of each foreign patent and publication is enclosed.

Any fees required for the proper filing of this Information Disclosure Statement should be withdrawn from the Jones Day Deposit Account No. 50-1432, account 153454600010.

Respectfully submitted,

David M. Maiorana

Registration No. 41,449

JONES DAY

North Point

901 Lakeside Avenue

Cleveland, Ohio 44114

(216) 586-3939

Date: 2 4 (04

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents. P.O. Box 1450. Alexandria. VA 22313-1450

February 4, 2004.

By: Kathie 9. Hopogyle.

FORM PTO-1449 (Modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

(37 CFR 1.98(b))



Atty Docket No.: 153454600010

Serial No.: 10/632,604

Applicant(s): Anguera Pros et al.

Filing Date: August 1, 2003

-										Filing Date: August 1,					
									LIC DATENT DO	Group: Not Yet Assigned ENT DOCUMENTS					
Exam. Init.	T	<u> </u>		Pate	ent Nur	nber			Issue Date	Patentee	Class	Subclass	Filing Date		
	2002/	0	0	0	Τ 0	9	4	0	01/03/2002	Moren et al.				Т	
	2002/	0	0	0	0	9	4	2	01/03/2002	Duroux				-	
	2002/	0	0	3	6	5	9	4	03/28/2002	Gyenes	 			\vdash	
	2002/	0	1	0	5	4	6	8	08/08/2002	Tessier et al.					
	2002/	0	1	0	9	6	3	3	08/15/2002	Ow et al.	 			┼─	
	2002/	0	1	2	6	0	5	4	09/12/2002	Fuerst et al.	-			\vdash	
·	2002/	0	1	2	6	0	5	5	09/12/2002	Lindenmeier et al.				┼	
	2002/	0	1	7	5	8	6	6	11/28/2002	Gram	-			-	
		3	5	2	1	2	8	4	07/21/1970	Shelton, Jr. et al.				-	
		3	5	9	9	2	1	4	08/10/1971	Altmayer					
	 	3	6	2	2	8	9	0	11/23/1971	Fujimoto et al.				 	
	 	3	6	8	3	3	7	6	08/08/1972	Pronovost					
	-	3	8	1	8	4	9	0	06/18/1974	Leahy				╁	
		3	9	6	7	2	7	6	06/29/1976	Goubau			Pro-sec	-	
•	1	3	9	6	9	7	3	0	07/13/1976	Fuchser					
		4	0	2	4	5	4	2	05/17/1977	Ikawa et al.				1	
	 	4	1	3	i	8	9	3	12/26/1978	Munson et al.				1	
		4	1	4	1	0	1	6	02/20/1979	Nelson					
	-	4	4	7	1	3	5	8	09/11/1984	Glasser	-				
	-	4	4	7	1	4	9	3	09/11/1984	Schober		<u> </u>			
	 	4	5	0	4	8	3	4	03/12/1985	Garay et al.			·		
	<u> </u>	4	5	4	3	5	8	1	09/24/1985	Nemet				1	
	 	4	5	7	1	5	9	5	02/18/1986	Phillips et al.				·	
· · · · · · · · · · · · · · · · · · ·		4	5	8	4	7	0	9	04/22/1986	Kneisel et al.				Ĭ	
		4	5	9	0	6	l	4	05/20/1986	Erat	1				
		4	6	2	3	8	9	4	11/18/1986	Lee et al.					
		4	6	7	3	9	4	8	06/16/1987	Kuo					
		4	7	3	0	1	9	5	03/08/1988	Phillips et al.					
		4	8	3	9	6	6	0	06/13/1989	Hadzoglou					
*****		4	8	4	3	4	6	8	06/27/1989	Drewery					
	<u> </u>	4	8	4	7	6	2	9	07/11/1989	Shimazaki .					
	<u> </u>	4	8	4	9	7	6	6	07/18/1989	Inaba et al.			· · · · · · · · · · · · · · · · · · ·	1	
	- ·	4	8	5	7	9	3	9	08/15/1989	Shimazaki					
		4	8	9	0	1	1	4	12/26/1989	Egashira					
		4	8	9	4	6	6	3	01/16/1990	Urbish et al.			_		
		4	9	0	7	0	1	1	03/06/1990	Kuo				1.	
		4	9	1	2	4	8	1	03/27/1990	Mace et al.					
		4	9	7	5	7	ī	1	12/04/1990	Lee					
		5	0	3	0	9	6	3	07/09/1991	Tadama					

	-	5	1	3	8	3	2	8	08/11/1992	Zibrik et al.			
<u> </u>	 	5	1	6	8	4	7	2	12/01/1992	Lockwood		 	
	+	5	1	7	2	0	8	4	12/15/1995	Fiedzuiszko et al.	-		
	 	5	2	0	0	7	5	6	04/06/1993	Feller			
	 	5	2	1	4	4	3	4	05/25/1993	Hsu	_	 	
<u> </u>	 -	5	2	1	8	3	7	0	06/08/1993	Blaese		-	
ļ	 		L—.	2	7	8		4	07/13/1993	Oda			•
	-	5	2				0						
		5	2	2	7	8	0	8	07/13/1993	Davis			
	ļ .	5	2	4	5	3	5	0	09/14/1993	Sroka			
	ļ	5	2	4	8	9	8	8	09/28/1993	Makino			
	ļ <u>.</u>	5	2	5	5	0	0	2	10/19/1993	Day .			
		5	2	5	7	0	3	2	10/26/1993	Diamond et al.			
<u>, </u>		5	3	4	7	2	9	1	09/13/1994	Moore			
		5	3	5	5	1	4	4	10/11/1994	Walton et al.			
		5	3	5	5	3	1	8	10/11/1994	Dionnet et al.			
		5	3	7	3	3	0	0	12/13/1994	Jenness et al.			
		5	4	0	2	1	3	4	03/28/1995	Miller et al.			
		5	4	2	0	5	9	9	05/30/1995	Erkocevic			
		5	4	2	2	6	5	l	06/06/1995	Chang			
		5	4	5	1	9	6	5	09/19/1995	Matsumoto			
		5	4	5	1	9	6	8	09/19/1995	Emery			
		5	4	5	7	4	6	9	10/10/1995	Diamond et al.			
	-	5	4	7	1	2	2	4	11/28/1995	Barkeshli			
ž.		5	4	9	3	7	0	2	02/20/1996	Crowley et al.			
-	+	5	5	3	7	3	6	7	07/16/1996	Lockwood et al.		1	
		5	6	1	9	2	0	5	04/08/1997	Johnson		 	
		5	6	8	4	6	7	2	11/04/1997	Karidis et al.			
	1	5	7	1	2	6	4	0	01/27/1998	Andou et al.			
	<u> </u>	5	7	6	7	8	1	1	06/16/1998	Mandai et al.			
	1	5	7	9	8	6	8	8	08/25/1998	Schofield			
		5	8	2	1	9	0	7	10/13/1998	Zhu et al.			
		5	8		1	4	0	3	11/24/1998	West		·····	
	 	5	8	7	0	0	6	6	02/09/1999	Asakura et al.			
		5	8	7	2	5	4	6	02/16/1999	Ihara et al.			
		5	8	9	8	4	0	4	04/27/1999	Jou			
		5	9	0	3	2	4	0	05/11/1999	Kawahata et al.			
		5	9	2	6	1	4	1	07/20/1999	Lindenmeier et al.		-	
-	-	5	9	4	3	0	2	0	08/24/1999	Liebendoerfer et al.			
		5	9	6	6	0	9	8	10/12/1999	Qi et al.			
	 	5	9	7	3	6	5	1	10/26/1999	Suesada et al.		ļ	
	 	5	9	8	6	6	1	0	11/16/1999	Miron		 	
	+	5	9	9	0	8	3	8	11/23/1999	Burns et al.		 	
	 	6	0	0	2	3	6	7	12/14/1999	Engblom et al.		-	
	-		0	2	8	5		8					
		6	0				6		02/22/2000	Asakura et al.			
<u></u>		6		3	1	4	9	9	02/29/2000	Dichter			
	 -	6	0	3	1	5	0	5	02/29/2000	Qi et al.		 	
<u> </u>		6	0	7	8	2	9	4	06/20/2000	Mitarai			
		6	0	9	7	3	4	5	08/01/2000	Walton			
		6	1	0	4	3	4	9	08/15/2000	Cohen			
L	1	6	1 1	3	1	0	4	2	10/10/2000	Lee et al.		1	

Γ		6	T 1	4	0	9	6	9	10/31/2000	Lindenmeier et al.				
		6	1	6	0	5	1	3	12/12/2000	Davidson et al.				<u> </u>
ļ			1	7	2	6	1	8	01/09/2001	Hakozaki et al.				
		6	2	1	8	9	9	2	04/17/2001	Sadler et al.				
<u> </u>			2	3			7			Lindenmeier et al.				
ļ		6		<u> </u>	6	3		2	05/22/2001					
 		6	2	6	6	0	2	3	07/24/2001	Nagy et al.				
ļ		6	2	8	1 -	8	4	6	08/28/2001	Puente Baliarda et al.				<u> </u>
		6	3	0	7	5	1	1	10/23/2001	Ying et al.				
		6	3	2	9	9	5	1_	12/11/2001	Wen et al.				
		6	3	2	9	9	5	4	12/11/2001	Fuchs et al.				-
		6	3	6	7	9	3	9	04/09/2002	Carter et al.				
		6	4	0	7	7	1	0	06/18/2002	Keilen et al.				
	,	6	4	1	7	8	1	0	07/09/2002	Huels et al.			-	
		6	4	3	1	7	1	2	08/13/2002	Tumbull				
		6	4	4	5	3	5	2	09/03/2002	Cohen				
		6	4	5	2	5	4	9	09/17/2002	Lo				<u> </u>
		6	4	5	2	5	5	3	09/17/2002	Cohen				ļ
		6	4	7	6	7	6	6	11/05/2002	Cohen				
		6	5	2	5	6	9	1	02/25/2003	Varadan et al.				
		6	5	5	2	6	9	0	04/22/2003	Veerasamy				
		Н	0	0	1	6	3	1	02/04/1997	Montgomery et al.				
		•			FO	REIG	V PAT	ENT (OR PUBLISHED FO	REIGN PATENT APPLIC	CATION			
Exar Init.				Docu	ment N	umber			Publication Date	Country or Patent Office	Class	Subclass	Translation	
Title.		0	0	9	6	8	4	7	12/28/1983	EP			X (English Abstract)	T
		0	2	9	7	8	1	3	06/24/1988	EP				
		0	3	5	8	0	9	0	08/29/1989	EP				ļ
		0	5	4	3	6	4	5	05/26/1993	EP				<u> </u>
-		0	5	7	1	1	2	4	11/24/1993	EP				
		0	7	6	5	0	0	1	03/26/1997	EP				ļ
				ļ									· 	
<u></u>		0	8	1	4	5	3	6	12/29/1997	EP				
		0	8	9	2	4	5	9	01/20/1999	EP		<u></u>		
		0	9	3	2	2	1	9	07/28/1999	EP				
		0	9	6	9	3	7	5	01/05/2000	EP				
		0	9	8	6	1	3	0	03/15/2000	EP			X (English Abstract)	
		0	9	9	7	9	7	4	05/03/2000	EP				
 		1	0	1	8	7	7	7	07/12/2000	EP				
 		1	0	1	8	7	7	9	07/12/2000	EP				
}		1	0	7	9	4	6	2	02/28/2001	EP				-
		1	0	8	3	6	2	4	03/14/2001	EP				<u> </u>
<u> </u>					<u> </u>				1					ļ
		1	0	9	4	5	4	5	04/25/2001	EP				ļ
		1	0	9	6	6	0	2	05/02/2001	EP				ļ
L		1	1	9	8	0	2	7	04/17/2002	EP				
		1	2	3	7	2	2	4	09/04/2002	EP .			X (English Abstract)	
		1	2	6	7	4	3	8	12/18/2002	EP				
 		2	5	4	3	7	4	4	10/05/1984	FR			X (English Abstract)	<u> </u>
<u> </u>		2	7	0	4	3	5	9	10/28/1994	FR	 			
 -	 	3	3	3	7	9	4	1	05/09/1985	DE			X (English Abstract)	
1			<u></u>	L	<u></u>		<u> </u>	L,	L	L <u> </u>	L	L		L

	5	5	1	4	7	8	0	6	11/18/1980	JP		X (English Abstract)	
	1	5	Ó	Ó	7	1	0	9	01/14/1993	JP		X (English Abstract)	
	+	5	1	2	9	8	1	6	05/25/1993	JP		X (English Abstract)	<u> </u>
		5	2	6	7	9	i	6	10/15/1993	JP		X (English Abstract)	
	 	5	3	4	7	5	0	7	12/27/1993	JP		X (English Abstract)	
		6	2	0	4	9	0	8	07/22/1994	JP		X (English Abstract)	
	+	2	1	1	2	1	6	3	03/16/1998	ES		X (English Abstract)	
	+	2	1	4	2	2	8	0	05/06/1998	ES			
	<u> </u>	2	2	1	5	1	3	6	09/13/1989	GB			
	 	2	3	3	0	9	5	1	05/05/1999	GB			
	-	2	3	5	5	1	1	6	04/11/2001	GB			
		9	5	1	1	5	3	0	04/27/1995	PCT			
		9	6	2	9	7	5	5	09/26/1996	PCT			
	1	9	6	3	8	8	8	1	12/05/1996	PCT			
	<u> </u>	9	7	0	6	5	7	8	02/20/1997	PCT		,	
	†	9	7	1	1	5	0	7	03/27/1997	PCT .			
	 	9	7	3	2	3	5	5	09/04/1997	PCT		X (English Abstract)	
	<u> </u>	9	7	3	3	3	3	8	09/12/1997	PCT			
		9	7	3	5	3	6	0	09/25/1997	PCT			
1		9	7	4	7	0	5	4	12/11/1997	PCT			
		9	8	1	2	7	7	1	03/26/1998	PCT			
è		9	8	3	6	4	6	9	08/20/1998	PCT			
		9	9	0	3	1	6	6	01/21/1999	PCT			
		9	9	0	3	1	6	7	01/21/1999	PCT			
		9	9	2	5	0	4	2	05/20/1999	PCT			
		9	9	5	6	3	4	5	11/04/1999	PCT			
		0	0	0	1	0	2	8	01/06/2000	PCT			
		0	0	0	3	4	5	3	01/20/2000	PCT			
		0	0	2	2	6	9	5	04/20/2000	PCT			
		0	0	4	9	6	8	0	08/24/2000	PCT			
		0	0 .	5	2	7	8	7	09/08/2000	PCT			
		0	1	0	3	2	3	8	01/11/2001	PCT			
		0	1	0	8	2	5	7	02/01/2001	PCT			
	<u> </u>	0	1	1	3	4	6	4	02/22/2001	PCT			
		0	1	1	7	0	6	4	03/08/2001	PCT			
		0	1	2	4	3	1	4	04/05/2001	PCT			
		0	1	2	6	1	8	2	04/12/2001	PCT			
		0	1	2	8	0	3	5	04/19/2001	PCT			
		0	1	3	1	7	3	9	05/03/2001	PCT			
		0	1	3	3	6	6	5	05/10/2001	PCT			
		0	1	3	5	4	9	1	05/17/2001	PCT			
		0	1	3	7	3	6	9	05/25/2001	PCT			
		0	1	3	7	3	7	0	05/25/2001	PCT			
		0	1	4	1	2	5	2	06/07/2001	PCT			
	<u> </u>	0	1	4	8	8	6	1	07/05/2001	PCT			
	<u></u>	0	1	5	4	2	2	5	07/26/2001	PCT		<u> </u>	

	Ţ	To	T 1	7	3	T 8	9	0	10/04/2001	PCT		\top			
	 	10	1	7	8	1	9	2	10/18/2001	PCT		- 	- 		-
	 -	+-	1	8	2	4	1	0	11/01/2001	PCT		 			-
	 	 0 -	1 2	3	5	6	4	6	05/02/2002	PCT				· · · · · · · · · · · · · · · · · · ·	
	0	1 2	10	9	 	5	1	8	11/14/2002	PCT			+		
	0	1 2	0	9	6	1	6	6	11/28/2002	PCT		-	- 		-
	<u> </u>	ļ	ļ	 _ _	ļ <u> </u>	ļ. <u> </u>	<u> </u>	<u> </u>	11,20,2002			•			-
	<u> </u>	<u></u>	<u> </u>	OTHE	R DOC	LIME	VTS (I	ncludi	ng Author Title	Date**, Relevant pages	Place of Pub	lication***)	<u> </u>		
	Τ	Ali,								held Terminals," IEEE,					
_	 				•		_						 -	·	
		Romeu, Jordi et al., "A Three Dimensional Hilbert Antenna," IEEE, pp. 550-553 (2002) Parker et al., "Convoluted array elements and reduced size unit cells for frequency-selective surfaces," IEEE Proceedings H, Vol. 138, No. pp. 19-22													
		(February 1991)													
		Hansen, R.C., "Fundamental Limitations in Antennas," Proceedings of the IEEE, Vol. 69, No. 2, pp. 170-182 (February 1981)													
		Jaggard, Dwight L., "Fractal Electrodynamics and Modeling," Directions in Electromagnetic Wave Modeling, pp. 435-446 (1991)													
•		Hohlfeld, Robert G. et al., "Self-Similarity and the Geometric Requirements for Frequency Independence in Antennae," Fractals, Vol. 7, No. 1, pp. 79 84 (1999)													
		Sam	avati, F	lirad, e	t al., "F	ractal (Capaci	ors," I	EEE Journal of So	id-State Circuits, Vol. 3	3, No. 12, pp. 1	2035-2041 (1	December 19	98)	
				., et al. 5 (June			Plana	Micro	strip Resonators fo	or Microwave Circuits,"	Microwave an	d Optical Te	chnology Let	ters, Vol. 21,	No. 6,
. <u> </u>						тоwba 16, 19		nped-E	lement Microstrip	Filters Using Capacitive	ly-Loaded Ind	uctors," IEE	E MTT-S Mi	crowave Sym	posium
ė									ors for microwave 398 (August 1, 19	applications and scienti	ic studies," Ph	ysica C, NL,	North-Holla	nd Publishing	ζ,
1										idlah, Vol. I, Radio com tes Energy Publishing H					
		V.A	Volgo	v, "Par	ts and 1	Units o	f Radio	Electr	onic Equipment (I	Design & Computation),	Energiya, Mo	scow, with I	English transl	lation (1967)	[4 pp.]
						and pro -2299 (generated by electrocher	nical depositio	n," Electroni	ics Letters, IE	E Stevenage,	, GB,
		Puer	ite, C.,	et al., "	Small 1	but long	g Koch	fractal	monopole," Elect	ronics Letters, IEE Steve	nage, GB, Vo	. 34, No. 1,	pp. 9-10 (Jan	uary 8, 1998)	
						et al., "7 -1781 (actal Antenna," IEEE T	ansactions on	Antennas an	d Propagatio	n, New York,	, US,
										ommunications," Electro k, NY US, IEEE, US pp			lew England.	, 1997. Profe	ssional
Examiner										Date Considered					

Page 5 of 5